It All Adds Up To Cleaner Air

1999/2000 Winter Pollution Fact sheet

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Air quality is measured by converting the concentration of the particulate and carbon monoxide pollutants in the air to the Pollution Standard Index (PSI).

201 to 300 is very unhealthy
151 to 200 is unhealthy
101 to 150 is unhealthy for sensitive groups
51 to 100 is moderate
0 to 50 is good

The most significant number of the scale is 100, which coincides with the upper limit of the pollution concentration that is considered to be clean air.

EPA has two standards for particulate matter. The first standard is based on a 24-hour average and the second is an annual standard.

Maricopa County will begin issuing high air pollution advisories (HPAs) when concentrations of particulate pollution are forecast to reach 120 micrograms per cubic meter or 85 PSI for a 24-hour period. The advisories for PM-10 will only be issued from October through March each year to coincide with the carbon monoxide season.

Current Status of Particulate Matter

Particulate matter is a year-round concern in Maricopa County. The larger particulate matter, PM-10, can be present in high winds or stagnant air conditions. The fine particulates, referred to as PM 2.5, are more visible during the winter months when the temperature inversion traps the pollutants close to the ground, forming the "Brown Cloud." Their origin is vehicle emissions, unpaved roads, farming, industry, and fireplaces.

Particulate matter pollution consists of very small liquid and solid particles floating in the air. It is a "grab bag" of pollutants including dust, smoke, soot, and particles that form from gaseous pollutants. The greatest concern to the public health is particulates small enough to be inhaled into the deepest parts of the lung. These coarse particulates are less than 10 microns in diameter or about 1/7th the thickness of a human hair and are known as PM-10.

The Environmental Protection Agency (EPA) adopted new National Ambient Air Quality Standards for PM-10 and PM 2.5 on July 16, 1997. The new standards are currently on hold. In May of 1999, the U.S. Court of Appeals for the District of Columbia Circuit vacated the revised PM-10 standard and subsequently reinstated the original PM-10 standard. In the same action, the court remanded the new PM 2.5 standard back to EPA for additional work to address the issues specified by the court. For more information on the court decision visit EPA's web site at www.epa.gov/ttn/oarpg/naaqsfin/.

The EPA reclassified Maricopa County's PM-10 non-attainment area to "serious" on June 10, 1996. In August of 1998, the EPA promulgated a Federal Implementation Plan (FIP) to address the area's continuing particulate matter non-attainment problems. Maricopa County developed a plan to address program deficiencies including the deployment of 10 additional employees to do dust control work. In the meantime, a serious area plan for the Maricopa County PM-10 non-attainment area was submitted to EPA. The plan included a request for an extension for up to 2006 to meet the national standards. The attainment date for the Maricopa County area is currently December 31, 2001. EPA informed Maricopa County and the Governor on November 9, 1999 that the serious area plan was not approvable because it relied too heavily on a single measure and EPA has requested a more balanced plan. The area resubmitted a revised plan on December 27, 1999 to EPA requesting parallel processing in an attempt to prevent EPA sanctions.

In discussions with EPA, EPA indicated that due to review time and administrative procedural requirements, the non-attainment area will be unable to avoid the first sanctions imposing 2 to 1 offsets. To minimize the amount of time that the sanction is in place, EPA agreed to parallel process the revised plan. Under this process, EPA's review clock will begin when the draft plan is received. If EPA can process the plan according to their tight schedule, the sanctions will only be in place for a couple of months.

New actions for the plan include: Paving unpaved roads; paving or stabilizing unpaved shoulders; enhanced enforcement of Rule 310 for dust control at construction sites, vacant lots and unpaved roads; use of PM-10 efficient street sweepers; hiring an additional attorney to expedite cases; and, increase staffing to 15 field inspectors, including an additional small business environmental assistance person to assist builders and construction companies in complying with the rules.

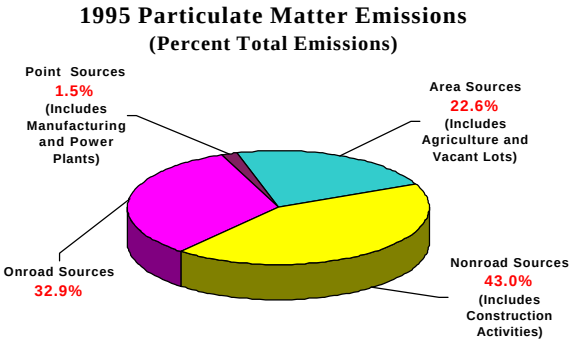
Why is particulate matter harmful?

When inhaled, PM-10 invades the respiratory system's natural defenses and lodges deep in the bronchial tubes. Normal body defenses (coughing and sneezing) do not remove these harmful pollutants.

PM-10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung disease, and reduce the body's ability to fight infections.

Certain people are especially vulnerable to adverse health effects from PM-10 emissions. These "sensitive groups" include children, the elderly, exercising adults, and those suffering from asthma and bronchitis.

Where does particulate matter come from?



Other sources of particulate matter include:

- Re-entrained dust from traffic on paved and unpaved roads
- Off-road recreational vehicles
- Wild fire, brush or waste burning
- Wood stoves or fireplaces (excluding pellet stoves)

What strategies are in the serious area plan?

Some of the key measures in the 1999 Serious Area Particulate Plan for PM-10 to reduce emissions include:

- Strengthening fugitive dust control programs.
- Installing landscaping, barriers, and fencing to reduce windblown dust.
- Utilizing PM-10 efficient street sweepers.
- Apply curbing, paving or stabilizing shoulders on paved roads and unpaved access points.
- Employ clean gasoline (long-term and winter fuel reformulation).
- Coordination of traffic signal systems.
- Implementing programs to reduce emissions from wood stoves and fireplaces.
- Standardizing the clean burning fireplace ordinances, which limit the type of devices that can be used in new construction.
- Teaming up with Paradise Community College to provide pollution prevention classes for industry.

What you can do to reduce the threat of PM-10.

- Reduce travel on days when a high air pollution advisory is issued.
- Avoid vigorous physical activity on days that have poor air quality.
- Avoid using leaf blowers and other dust producing equipment.
- Drive slowly on unpaved roads and other dirt surfaces.
- Don't use a wood stove or fireplace on days with poor air quality.
- Stabilize bare earth with gravel or vegetation, or restrict access to avoid disturbing the soil.